

Tutorial on SAVE/RESTORE

A. Wehmann

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Preview

- Discussion of D1 page
 - Used for SAVE/RESTORE
 - Discussion of lists used for Save, Restore
 - Sample screens—Display, Save, Restore
- Discussion of NuMI RESTORE Family Devices
- Discussion of Utility page and Redirects
- Differences among SAVE files

D1 Page

- 16 different areas (one a spare)
 - “Circular”, “Archive” are automatic “big” saves (2 per day each)
- File Directory can be listed per area
- Can “protect” files (or “unprotect”)
- Can make a SAVE file
- Can display contents of SAVE file
- Can do RESTORE from SAVE file

D1 con't

- SAVE using save list number/name or flexible lists
 - Save list #s are defined per device in database
 - NuMI is save list #123 (numi)
- DISPLAY using flexible lists
- RESTORE using flexible lists
 - Can turn supplies ON (or OFF), if desired

Flexible Lists

- Below the 16 area names, lists are user generated and saved
- List elements can be activated/deactivated by user choice (color yellow is active)
- For Restore, user can augment lists by individual device name includes or excludes (specify dynamically)
- Can include “family” devices (one level deep)

Screen for Display of File

PB:D1 Save/Restore<NoSets>							
D1	Display File <1400> 21-Apr-05 0012 Thu					.Pgm_Tools.	*RETURN
CHANNEL						
	linac	booster	main_inj	extbeams	tevatron	p-bar_sr	refrig ecool
	archive	recycler	shots	circular	minboone	NUM1	spare1
PS.....	monitors	kicker				
						
	BENDS..			extract	trims..	quads..
						
	.D/A.		.A/D.		.D/A.		.A/D.
E:NBENDR	Family		Family				
.....							
FAMILY.							
.....							
	.D/A.		.A/D.		.D/A.		.A/D.
E:NMNTRR	Family		Family				
.....							
				KICKER.		
.....							
-I:KPS6N				0	4.47		kV

First two lines are 16 area names

Third & fourth lines have user defined header names

Fifth line has user defined sub-header names

Area below that has space for numerous device/family names

Save to File – Screen 1

PA:D1 Save/Restore<NoSets>

D1 Saving in File 1400 .Pgm_Tools. *RETURN

1 Subsystem Lists selected by default
1 Subsystem Lists selected for this save
* Select/Deselect Subsystem Lists

0 User Display Lists selected by default
0 User Display Lists selected for this save
* Select/Deselect User Display Lists

* Start Save

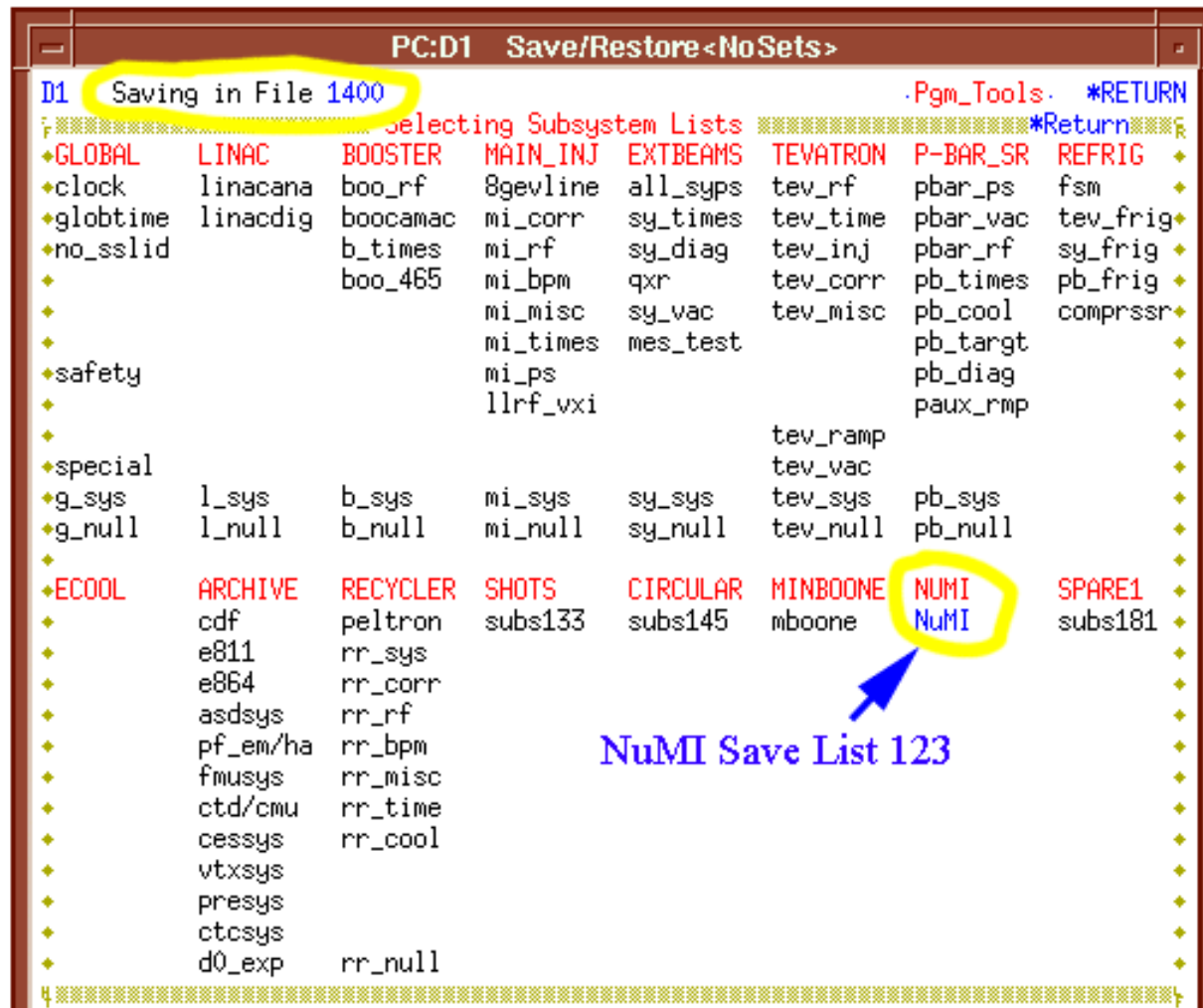
* Start Save Progress Report on Graphics Screen

* Update Default Selections

This to use
SAVE file lists

This to use
flexible lists

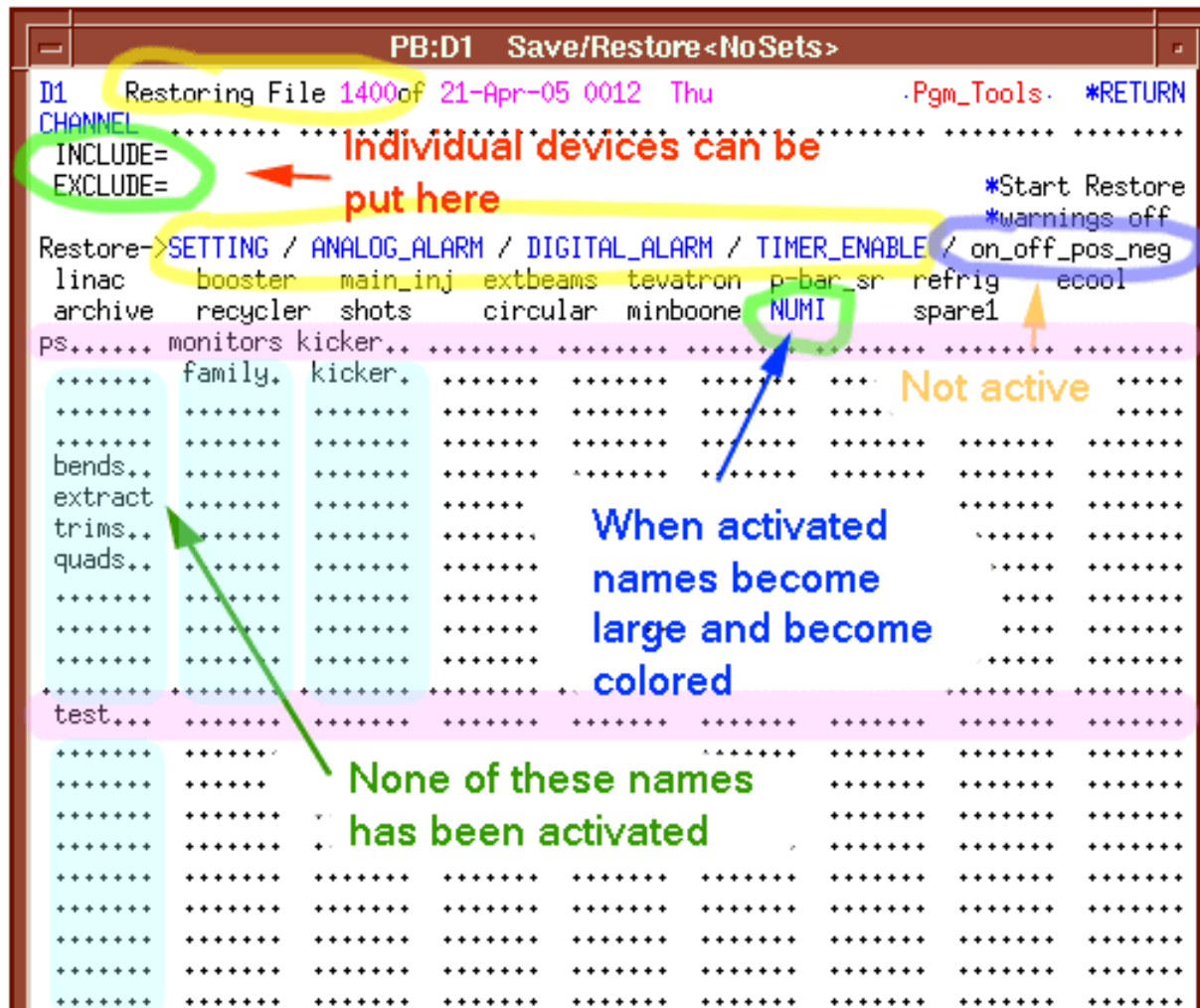
Save to File – Screen 2



NuMI RESTORE family devices

- E:NBENDR
- E:NQUADR
- E:NTRIMR
- E:NEXTRR
 - Extraction devices (LAM60, LAM61)
- E:NKICKR
 - Kicker is kept separate

Restore from File Screen



Save to User Display List screen has the same lists, but lacks the INCLUDE= & EXCLUDE= choices at the top

when chosen,
text is colored
& larger

Activate multi-line
list for restore

Activate/deactivate individually for restore (multi-device families)

E:NBENDR	Family	Family	bend magnets
E:NEXTRR	Family	Family	extraction devices
E:NTRIMR	Family	Family	trim magnets
E:NQUADR	Family	Family	quadrupoles
E:NMNTRR	Family	Family	monitoring devices

Restore->setting / analog_alarm / digital_alarm / timer_enable / ON_OFF_POS_NEG

For ON/OFF restore
(nothing else)

```

D1 Restoring File 1414 of 08-Mar-05 1047 Tue ♦Pgm_Tools♦ *RETURN
CHANNEL .....
INCLUDE=e:qf109
EXCLUDE=

Restore->setting / ANALOG_ALARM / digital_alarm / TIMER_ENABLE / ON_OFF_POS_NEG
linac booster main_inj extbeams tevatron p-bar_sr refriger misc
archive recycler shots circular minboone NUMI spare1
numi.....

... Restore Status...
... Started: Sat Mar 12 22:05:54 2005
... 2 settings have been accumulated.
... Restoring file 1414...
... =====
... Restored settings: 1
... Settings with warnings: 0
... Settings with errors: 0
kic =====
fam Finished: Sat Mar 12 22:05:54 2005

```

Restore of settings was disabled

DC ON/OFF ON 1

Test of RESTORE to see if E:QF109 could be turned on by restoring from SAVE file 1414, and turned off by restoring from SAVE file 1405.

SAVE file 1414 was made while power supplies were ON; SAVE file 1405 was made while power supplies were OFF.

```

D1 Restoring File 1405 of 12-Mar-05 0048 Sat ♦Pgm_Tools♦ *RETURN
CHANNEL .....
INCLUDE=e:qf109
EXCLUDE=

Restore->setting / ANALOG_ALARM / DIGITAL_ALARM / TIMER_ENABLE / ON_OFF_POS_NEG
linac booster main_inj extbeams tevatron p-bar_sr refriger misc
archive recycler shots circular minboone NUMI spare1
numi.....

... Restore Status...
... Started: Sat Mar 12 22:07:53 2005
... 3 settings have been accumulated.
... Restoring file 1405...
... =====
... Restored settings: 2
... Settings with warnings: 0
... Settings with errors: 0
kic =====
fam Finished: Sat Mar 12 22:07:54 2005

```

Restore of status was enabled.

DC ON/OFF OFF 0

Result of RESTORE operation, as seen on S53 digital status page.

Utility Page

- DAQ Redirection
 - Choose SAVE file number
 - Choose PA/PB/PC window
 - In PA/PB/PC window, Messages frame will list conflicts between current and saved values
 - In PA/PB/PC window a diagonal line appears, a bit later the SAVED values are shown

SAVE file differences

- “Circular”, “Archive” SAVE files don’t look at Frequency Time Descriptor (FTD) for Reading Values
- User-generated SAVE files do pay attention to FTDs
 - FTD of A4 clock event is proposed for NuMI devices
 - A4 would occur at beam extraction
- D1 SAVE differs from Save file from page I68
- There is also a SAVE/RESTORE file mechanism for fast time plots on the Utilities window